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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/573,104
Filing Date: March 23, 2006
Appellant(s): NEBOT ET AL.

Thomas A. Miller
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 9/17/09 appealing from the Office action mailed 2/18/09.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

5,375,059

Kyrtsos et al.

12-1994

Troemel WO 02/25968 A1

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims **13-18 and 21** are rejected under 35 U.S.C. 102(b) as being anticipated by Troemel WO 02/25968 A1.

Consider **claim 13**, Troemel teaches a virtual wireless computer network including a plurality of stations arranged to interface with each other by wireless communication in two or more regions and within each region(e.g., **a virtual pipe between source and destination**)(see **at least abstract, page lines 15-20, page 6 lines 23-25, page 12 lines 18-22, see also figures 3 and 4**), at least one of said regions being beyond normal wireless communication range of other said regions (e.g., **outside network**) see **at least the abstract, page 4 line 16 - 5 line 7**), and wherein at least one station is a mobile station able to travel between regions (e.g., **mobiles 503 504 and 506 of figure 5 can travel, see also examples from page 4 lines 5-8 and page 13 lines 13-18**), said mobile station being adapted to receive and/or transmit information by wireless communication in one region when in that region, and receive and/or transmit information to other regions when in those regions (e.g., **when mobile passes a base station it will dump data bound for an outside network and the base station will dump data bound**

for a destination mobile to the passing mobile)(see at least the abstract, page 4 line 16 - 5 line 7).

Consider **claim 14 and as applied to claim 13**, Troemel teaches wherein one or more of the mobile stations is located in a vehicle(e.g., mobiles 503 504 and 506 of figure 5 can travel, see also examples from page 4 lines 5-8 and page 13 lines 13-18).

Consider **claim 15 and as applied to claim 13**, Troemel teaches wherein one or more of the mobile stations is located on a person able to travel between regions(e.g., see examples from page 4 lines 5-8 and page 13 lines 13-18).

Consider **claim 16 and as applied to claim 13**, Troemel teaches wherein at least one of the stations is hard wire connected to a backbone system (e.g., see page 10 line 7- page 11 line 11and page 11 line 23- page 12 line 6 in addition to related examples of the specification regarding various device types).

Consider **claim 17 and as applied to claim 13**, Troemel teaches wherein the stations include slow moving stations primarily adapted to be operating within regions, and fast moving stations primarily intended to be moving between regions (e.g., walking individuals and cars) (e.g., see examples from page 4 lines 5-8 and page 13 lines 13-18).

Consider **claim 18 and as applied to claim 13**, Troemel teaches wherein the network is also adapted to be used as a safety alert system providing advice to the operator of a station of the presence of other stations that may be in the immediate proximity (e.g., see note above regarding intended use in addition to equivalent usage recited on page 4 lines 8-12).

Consider **claim 21**, Troemel teaches a method of communicating information comprising the steps of providing a virtual wireless network as claimed in claim 13, and using that network

to transfer information between regions (e.g., a **virtual pipe between source and destination**)(
**see at least abstract, page lines 15-20, page 6 lines 23-25, page 12 lines 18-22, see also
figures 3 and 4).**

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all
obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 19-20 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Troemel WO 02/25968 A1 in view of Kyrtos et al. US Patent No.: 5,375,059.

Consider **claim 19 and as applied to claim 18**, Troemel teaches the claimed invention except wherein the velocities of each of the stations are taken into account and a warning given to the operator appropriate to the danger detected.

However, in analogous art, Kyrtos teaches wherein the velocities of each of the stations are taken into account and a warning given to the operator appropriate to the danger detected (e.g., see **speed control and autonomous versus manual control in col. 79 and 80**).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time invention was made to modify Troemel to include wherein the velocities of each of the stations are taken into account and a warning given to the operator appropriate to the danger detected for the purpose of assessing vehicle position as taught by Kyrtos.

Consider **claim 20 and as applied to claim 19**, Troemel teaches when provided to the operator of an oversize off-road haul truck and wherein both the velocity of the haul truck, and the position of any potential intruders in the vicinity of the haul truck are taken into consideration (e.g., **the system applied to a stolen vehicle also military uses reads on oversize off-road haul trucks and potential intruders**)(page 4 lines 5-15).

However, in analogous art, Kyrtos teaches wherein the velocities of each of the stations are taken into account and a warning given to the operator appropriate to the danger detected (e.g., see **speed control and autonomous versus manual control in col. 79 and 80**).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time invention was made to modify Troemel to include wherein the velocities of each of the stations

are taken into account and a warning given to the operator appropriate to the danger detected for the purpose of assessing vehicle position as taught by Kyrtsos.

Consider **claim 22 and as applied to claim 21**, Troemel teaches the claimed invention except when used in a mining environment.

However, in analogous art, Kyrtsos teaches when used in a mining environment (e.g., see **col. 9 line 16**).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time invention was made to modify Troemel to include a mining environment for the purpose of assessing vehicle position as taught by Kyrtsos.

(10) Response to Argument

1. Applicant argues that contrary to the Examiner's assertions, independent claim 13, as well as claims 14-18 and 21 dependent thereon, is not anticipated by Troemel under 35 U.S.C. § 102(b) because each of the pending claims includes one or more elements that are not disclosed by Troemel. Furthermore, claims 19, 20 and 22 are not obvious over the prior art references cited by the Examiner because a prima facie case of obviousness under 35 U.S.C. § 103 (a) cannot be established by the combination of Troemel and Kyrtsos as suggested by the Examiner. Accordingly, all rejections asserted against the currently pending claims 13-22 are erroneous and must be reversed.
2. However, the Examiner respectfully disagrees.
3. Applicant indicates that, each of the rejected claims requires at least a plurality of stations arranged to interface with each other by wireless communication in two or more regions and within each region, wherein at least one region is beyond normal wireless communication range of the other regions, and wherein at least one station is a mobile

station able to travel between the regions. Each claim further requires the mobile station to receive and/or transmit information by wireless communication in one region when in that region, and receive and/or transmit information to other regions when in those regions. Contrary to the Examiner's assertions, nothing in Troemel meets all of these requirements.

4. In response to the Applicant's initial assertion, the Examiner respectfully submits that claim 13 reads as follows:

A virtual wireless computer network including a plurality of stations arranged to interface with each other by wireless communication in two or more regions and within each region, at least one of said regions being beyond normal wireless communication range of other said regions, and wherein at least one station is a mobile station able to travel between regions, said mobile station being adapted to receive and/or transmit information by wireless communication in one region when in that region, and receive and/or transmit information to other regions when in those regions.

5. Analysis of the claims:

The Breadth of the claims in the Application should always be carefully noted; that is, the Examiner should be fully aware of what the claims do *not* call for, as well as what they do require. During patent examination, the claims are given the broadest reasonable interpretation consistent with the specification, See *In re Morris*, 127 F.3d 1048, 44 USPQ2d 1023 (Fed. Cir. 1997). Furthermore, although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Consider the first limitation:

A virtual wireless computer network including a plurality of stations arranged to interface with each other by wireless communication in two or more regions and within each region

The second limitation indicates:

at least one of said regions being beyond normal wireless communication range of other said regions

The third limitation reads:

and wherein at least one station is a mobile station able to travel between regions

The fourth limitation reads:

said mobile station being adapted to receive and/or transmit information by wireless communication in one region when in that region

The Fifth limitation reads:

and receive and/or transmit information to other regions when in those regions.

The Examiner respectfully submits that given the broadest reasonable interpretation the claim language reads on just about all mobile networks. Consider the following for further analysis: the mere functionality of a mobile station is to have the ability to communicate with other mobile stations. For example a wireless laptop in the upstairs bedroom transmitting and receiving to a laptop within the bedroom and a laptop in the living room.

Consider again the first limitation:

A virtual wireless computer network including a plurality of stations arranged to interface with each other by wireless communication in two or more regions and within each region.

In the example, the two or more regions would include the bedroom and the living room

Consider again the second limitation:

at least one of said regions being beyond normal wireless communication range of other said regions.

In the Example, the at least one of said region beyond normal wireless range would include the living room since the bedroom would include the normal wireless range.

Consider again the third limitation :

and wherein at least one station is a mobile station able to travel between regions

In the Example, the Laptop can travel from the bedroom to the living room.

Consider again the fourth limitation :

said mobile station being adapted to receive and/or transmit information by wireless communication in one region when in that region.

In the example above, the laptops communicates wirelessly with each other within the bedroom.

Consider again the fifth limitation

and receive and/or transmit information to other regions when in those regions.

In the example above, the laptops can move throughout the house communicating to each other within the rooms or outside of the rooms.

6. The purpose of the above Example was to simply illustrate the broad range of interpretation of the claim language. As the Board can see, the claims reads on a group of **mobile** stations transmitting and receiving. A careful review of the claim language reads on a very broad range of mobile stations and the claims lack novelty and/or inventive step. The claim language does not indicate the boundary of the regions (e.g., IP addressable regions, geographical bounds). One must consider that the claims are given the broadest reasonable interpretation where region can be defined by physical

characteristics, human characteristics, and functional characteristics as a way of describing spatial areas. Normal range may include the transmission range of the wireless signal based on the physical characteristics of the medium and interface design. Beyond normal range can include the fact that the device is mobile so by moving closer to destination the device can communicate beyond normal range.

7. Applicant argues that nothing in Troemel teaches a plurality of stations arranged to interface with each other in two or more regions, wherein at least one of the stations is a mobile station adapted to receive and/or transmit information to other regions when in those regions, as required by the pending claims.
8. However, the Examiner respectfully disagrees.
9. Based on the claim language, which only requires that a plurality of stations be arranged to interface with each other in two or more regions: Please note at least figure 5 illustrates the invention as claimed. Troemel teaches on page 12 lines 18-22 that a mobile transceiver 110 (noting the transmitter and receiver illustrated in figure 1) can communicate data wirelessly using the wireless interface from vehicle A to Vehicle B. Certainly the established path would include at least multiple regions since from the definition above we understand that a region includes a spatial location. The Spatial locations are illustrated along the path of at least figure 5 as the mobiles travel. The Claim further requires "wherein at least one of the stations is a mobile station adapted to receive and/or transmit information to other regions when in those regions", Troemel would read on this limitation also since even transmitting via the base station to other networks or the internet would read on other region. The data is transmitted wirelessly

from the mobile transceiver 110 to the base station 200 and also transmitted wireless from the base station 200 to the mobile transceiver and therefore would not violate the language of the claim.

10. Applicant argues that Troemel fails to disclose a plurality of stations arranged to interface with each other by wireless communication in two or more regions and within each region, wherein at least one of the regions is beyond normal wireless communication range of the other regions, and at least one mobile station able to travel between regions, adapted to receive and/or transmit information by wireless communication in one region when in that region, and further, adapted to receive and/or transmit information to other regions when in those regions, Troemel cannot anticipate independent claim 13, as well as claims 14-22 dependent thereon. Accordingly, Appellant submits that the anticipation rejection of claims 13-18 and 21 based upon Troemel is erroneous and must be reversed.
11. However, as illustrated above, the Examiner respectfully disagrees. Troemel teaches mobile transceivers 110 that communicate as they move along a geographical path which would include moving from region to region. By moving from one point to another, the mobile transceivers arrange themselves to communicate with each other in two or more regions. Normal range may include the transmission range of the wireless signal based on the physical characteristics of the medium and interface design. Beyond normal range can include the fact that the device is mobile so by moving closer to destination or further away from the destination the device can communicate beyond and or within normal range. The data is transmitted wirelessly from the mobile transceiver 110 to the base station 200 and also transmitted wirelessly from the base station 200 to the mobile

transceiver and therefore would not violate the language of the claim since the mobile devices are still communicating wirelessly as required by the claim language.

12. Applicant argues that the combination of Troemel and Kyrtos suggested by the

Examiner fails to teach or suggest each and every element of the rejected claims, and thus, Troemel and Kyrtos fail to render the rejected claims obvious.

Here, claims 19, 20 and 22 are not obvious over the prior art references cited by the Examiner because the combination of Troemel and Kyrtos fails to teach or suggest each and every element of the rejected claims. As previously discussed with respect to independent claim 13, each of the pending claims requires at least a plurality of stations arranged to interface with each other by wireless communication in two or more regions and within each region, at least one of the regions being beyond normal wireless communication range of the other regions, and at least one of the stations being a mobile station able to travel between regions, receive and/or transmit information by wireless communication in one region when in that region, and receive and/or transmit information to other regions when in those regions. These requirements cannot be met by the purported combination of the Troemel and Kyrtos, as discussed more specifically below. On pages 7 and 8 of the Final Office action, the Examiner asserts that Troemel teaches all of the limitations of the pending claims except for: (i) a virtual wireless computer network that takes into account the velocities of the stations and warns an operator appropriate to the danger detected, as specified in claim 19, (ii) a virtual wireless computer network that takes into consideration both the velocity of an oversize off-road haul truck as well as the position and velocity of any potential intruders in the vicinity of

the haul truck, as specified in claim 20, and (iii) a virtual wireless computer network that is used in a mining environment, as specified in claim 22. The Examiner thus relies upon Kyrtos to supply Troemel with the respective limitations of claims 19, 20 and 22.

However, as previously discussed, Troemel fails to teach or suggest all of the limitations of independent claim 13, upon which claims 19, 20 and 22 directly or indirectly depend. More specifically, in addition to the limitations of claims 19, 20 and 22, Troemel has been shown to lack a plurality of stations arranged to interface with each other by wireless communication in two or more regions and within each region, wherein at least one of the regions is beyond normal wireless communication range of the other regions, and at least one mobile station able to travel between regions, adapted to receive and/or transmit information by wireless communication in one region when in that region, and further, adapted to receive and/or transmit information to other regions when in those regions. Kyrtos similarly fails. As can be seen by the Board, Kyrtos fails to supply all of the aforementioned deficiencies of Troemel. Moreover, nothing in Kyrtos teaches or suggests a plurality of stations arranged to interface with each other by wireless communication in two or more regions and within each region, wherein at least one of the regions is beyond normal wireless communication range of the other regions, and at least one mobile station able to travel between regions, adapted to receive and/or transmit information by wireless communication in one region when in that region, and further, adapted to receive and/or transmit information to other regions when in those regions, as required by each of the pending claims. Because the combination of Troemel and Kyrtos fails to teach or suggest all of the limitations of the base claim 13, upon which claims 19,

20 and 22 depend, the obviousness rejection of claims 19, 20 and 22 based upon Troemel and Kyrtsos is erroneous and must be reversed.

13. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).
14. Troemel teaches mobile transceivers 110 that communicate as they move along a geographical path which would include moving from region to region. By moving from one point to another, the mobile transceivers arrange themselves to communicate with each other in two or more regions. Normal range may include the transmission range of the wireless signal based on the physical characteristics of the medium and interface design. Beyond normal range can include the fact that the device is mobile so by moving closer to destination the device can communicate beyond normal range. The data is transmitted wirelessly from the mobile transceiver 110 to the base station 200 and also transmitted wireless from the base station 200 to the mobile transceiver and therefore would not violate the language of the claim since the mobile devices are still communicating wirelessly as required by the claim language. The Breadth of the claims in the Application should always be carefully noted; that is, the Examiner should be fully aware of what the claims do *not* call for, as well as what they do require. During patent examination, the claims are given the broadest reasonable interpretation consistent with the specification, See *In re Morris*, 127 F.3d 1048, 44 USPQ2d 1023 (Fed. Cir. 1997). Furthermore, although the claims are interpreted in light of the specification, limitations

from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

15. Applicant argues that Troemel and Kyrtos teach away from the claimed subject matter, and thus, provide further evidence of non-obviousness. As previously discussed, in order for one region or network of Troemel to communicate with another region or outside network, Troemel requires at least one communication means, such as the Internet, capable of coverage that is at least as large as the distance between the respective base stations of the two networks. Paragraphs [0002] - [0003] of the present application specifically teaches this as a notable drawback in constantly changing environments, such as mining environments, where relative locations of individual regions or networks are often separated by significant distances and constantly moving. The present application overcomes such deficiencies by eliminating the need for constantly active and significantly large coverage areas interconnecting regions or networks. For example, paragraph [0025] of the present application teaches that "a very efficient virtual network can be built that connects all the operational areas of the mine without having to have full wireless coverage of all the mine area. This is efficient since the mine will always concentrate the resources in particular areas and these resources will be the ones that move with the network. The area without add-hoc networks will not require attention (coverage) and will be traversed by the normal fast moving agents, such as trucks 5." Troemel's need for static base stations and the extensive coverage areas required to interconnect such static base stations clearly teaches away from the more dynamic and adaptive path of the present application. Kyrtos is directed toward global positioning

systems (GPS) and is simply unrelated to the virtual wireless computer networks of the present application or the mobile Internet system of Troemel. In fact, the present application aims to overcome the deficiencies associated with such GPS based systems. For instance, paragraph [0034] of the present application teaches that a solution based on GPS systems, which requires all mobile equipment and personnel to possess a GPS unit that communicates with a base station, is expensive, not failsafe since it relies on each object having an operational GPS unit, and cannot always provide complete GPS coverage to all areas of a mine, such as mine pits. As discussed above, the Examiner cites Kyrtos merely for its teachings of vehicle positioning techniques and its applications to mining environments. However, a person of ordinary skill reading Kyrtos would surely be led in a direction divergent from the non-GPS based path of the present application. As each of Troemel and Kyrtos teaches away from the subject matter of the present application, Troemel and Kyrtos fail to properly combine, and further, fail to render any of the pending claims as obvious. At least for these reasons alone, the obviousness rejection of claims 19, 20 and 22 based upon the combination of Troemel and Kyrtos is improper and must be reversed.

16. However, the Examiner respectfully disagrees.

17. A reference does not teach away if it merely expresses a general preference for an alternative invention from amongst options available to the ordinarily skilled artisan, and the reference does not discredit or discourage investigation into the invention claimed. *In re Fulton*, 391 F.3d 1195, 1201 (Fed. Cir. 2004).

18. It would have been obvious to a person of ordinary skill in the art at the time invention was made to modify Troemel to include wherein the velocities of each of the stations are taken into account and a warning given to the operator appropriate to the danger detected for the purpose of assessing vehicle position as taught by Kyrtsos.
19. In response to applicant's argument that Kyrtsos is directed toward global positioning systems (GPS) and is simply unrelated to the virtual wireless computer networks of the present application or the mobile Internet system of Troemel. In fact, the present application aims to overcome the deficiencies associated with such GPS based systems. For instance, paragraph [0034] of the present application teaches that a solution based on GPS systems, which requires all mobile equipment and personnel to possess a GPS unit that communicates with a base station, is expensive, not failsafe since it relies on each object having an operational GPS unit, and cannot always provide complete GPS coverage to all areas of a mine, such as mine pits, the fact that applicant has recognized another advantage which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious. See *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985).

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

Art Unit: 2617

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/Charles Shedrick/

Examiner, Art Unit 2617

Conferees:

/LESTER KINCAID/

Supervisory Patent Examiner, Art Unit 2617

/George Eng/

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